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|  SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING & COMPLIANCE DIVISION APPLICATION PROCESSING AND CALCULATIONS | APPL. NO. 530475 | | PAGE 1 of 16 | |
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PERMIT TO OPERATE

SUMMARY: Change of condition for FCC Regenerator to impose NOx limits based on Consent Decree requirements that are effective January 1, 2012. Interim consent decree limits that were effective only January 1, 2010 to December 31, 2011 are being removed.

COMPANY INFORMATION

Company Name: Ultramar Inc. Valero Wilmington Refinery, Facility ID 800026
 Mailing Address: 2402 East Anaheim Street, Wilmington, CA 90744-4081
 Equipment Location: 2402 East Anaheim Street, Wilmington, CA 90744-4081
 Contact Person: Jon Elliott, (562) 491-6797


EQUIPMENT DESCRIPTION

Table 1 shows the proposed Section D permit description for the FCC regenerator. Additions to the description are noted in underlines and deletions are noted in strikeouts.

Table 1. Permit Equipment Description

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

| Equipment | ID No. | Connect ed To | RECLAIM Source Type/ Monitoring Unit | Emissions * And Requirements | Condi ti ons |
|---|--------|--|---|--|--|
| Process 3: CATALYTIC CRACKING | | | | | P13.1 |
| System 1: FCCU | | | | | S13.2, S56.1 |
| REGENERATOR, FCC, 61-IN-1, WITH CYCLONE, HEIGHT: 100 FT 6 IN; DIAMETER: 26 FT 6 IN A/N: <u>516742-530475</u> | D36 | C39 D157 D158 D166 D168 D973 D986 | NOX: MAJOR SOURCE**; SOX: MAJOR SOURCE** | CO: 500 PPMV (5A) [CONSENT DECREE VALERO, 6-16-2005]; CO: 500 PPMV (8) [40CFR 60 Subpart J, <u>6-24-2008 9-12-2012</u>]; CO: 2000 PPMV (5) [RULE 407, 4-2-1982]; HAP: (10) [40CFR 63 Subpart UUU, #2, 4-20-2006]; NOX: 80 PPMV (5) [CONSENT DECREE VALERO, 6-16-2005]; PM: (9) [RULE 404, 2-7-1986; RULE 405, 2-7-1986]; PM: 2 LBS/TON COKE BURNOFF (5) [CONSENT DECREE VALERO, 6-16-2005]; PM: 2 LBS/TON COKE BURNOFF (8) [40CFR 60 Subpart J, <u>6-24-2008 9-12-2012</u>]; PM10: 2.8 LBS/1000 BBLs FRESH FEED (5) [RULE 1105.1, 11-7-2003]; SO2: 25 PPMV (5) [CONSENT DECREE VALERO, 6-16-2005]; SO2: 50 PPMV (8) [40CFR 60 Subpart J, <u>6-24-2008 9-12-2012</u>]; SO2: 50 PPMV (5A) [CONSENT DECREE VALERO, 6-16-2005]; SOX: 25 PPMV (3) [RULE 2002, 1-7-2005; RULE 2002, 11-5-2010]; <u>NOX: 41 PPMV (5)</u> [CONSENT DECREE VALERO, 6-16-2005]; <u>NOX: 82 PPMV (5)</u> [CONSENT DECREE VALERO, 6-16-2005]; | A63.4, A63.8, A195.2, <u>A195.4</u> , A195.17, A195.18, A195.19, <u>A195.x1</u> , <u>A195.x2</u> , D29.12, D29.13, D82.3, D90.4, D323.1, E73.5, E193.4, H23.27, K40.3 |

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COMPLIANCE RECORD REVIEW

A query of the AQMD Compliance Database for the past two years (4/1/12 to 4/17/14) identified 10 NOV's and one Notice to Comply that were issued to the Ultramar Inc. Valero Wilmington Refinery (Facility ID 800026). One violation related to the FCC was for RECLAIM reporting errors, and the notice to comply was for SOx data from the FCC. All of these violations have since been resolved; the compliance database indicates that the facility is currently in compliance with applicable rules and regulations.

FEE EVALUATION

The BCAT for the FCC (D36) is 000521 [Fluid Catalytic Cracking Unit], Schedule H. The applicable Schedule H fee of \$14,363.30 for change of condition was paid when the application was submitted. No additional fees are due.


BACKGROUND/HISTORY

On June 16, 2005, the U.S. Justice Department and the U.S. EPA filed a Consent Decree (Civil Action No. SA-05-CA-0569) with Valero Refining Company (Valero). The Consent Decree is a comprehensive Clean Air Act settlement with refineries and was part of EPA's national effort to reduce air emissions from all refineries in the nation. Valero's 13 petroleum refineries subject to the Consent Decree SA-05-CA-0569 are: Ardmore, Oklahoma; Benicia, California; Corpus Christi (East), Texas; Corpus Christi (West), Texas; Denver, Colorado; Houston, Texas; Krotz Springs, Louisiana; Sunray (McKee), Texas; Paulsboro, New Jersey; St. Charles Parrish, Louisiana; Texas City, Texas; Three Rivers, Texas; and Wilmington, California. **For the purpose of this evaluation, Valero refers to all 13 refineries subject to the Consent Decree unless otherwise noted. Ultramar refers only to the Wilmington refinery.**

One of the requirements in the Consent Decree (*Section V. NOx Emission Reductions from FCCUs*) was for Valero to implement a program to reduce NOx emissions from FCCU regenerators and CO boilers and from the Corpus Christi West HOC by committing to an interim system-wide coke burn-weighted average NOx concentration emission limit of no greater than **69.2 ppmvd (at 0% O₂)**, as a **365-day rolling average** to be achieved by **December 31, 2008** and a final system-wide weighted average concentration NOx emission limit of no greater than **33.4 ppmvd (at 0% O₂)**, as a **365-day rolling average** to be achieved by **December 31, 2011** [Consent Decree, Item V, paragraph 48]. Item V of the Consent Decree is shown in Appendix A. The system-wide interim NOx emission limit is, therefore, effective from December 31, 2008 to December 31, 2011 [Consent Decree, Item V, paragraph 48].

Section V (NOx Emission Reductions from FCCUs) of the Consent Decree states:

"Program Summary: Valero will implement a program to limit NOx emissions from its FCCU regenerators and CO boilers and from the Corpus Christi West HOC by achieving

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a system-wide average of unit-specific NO_x concentration emission limits for each of the FCCUs and the Corpus Christi West HOC subject to this Part V and by implementing certain emission control systems or otherwise satisfying NO_x emission standards at the Houston, Paulsboro, St. Charles, Texas City and Wilmington Refineries, all of which are located in or near areas designated as in nonattainment with the ozone NAAQS. ...

E. Wilmington


42. On or before December 31, 2005, Valero shall commence an optimization study of an O₂ CS on the existing high efficiency regenerator at its Wilmington refinery in an effort to achieve NO_x concentration emissions of 20 ppmvd (at 0% O₂) as a 365-day rolling average and 40 ppmvd (at 0% O₂) as 7-day rolling average.

43. Within sixty (60) days after the conclusion of the optimization period but by no later than September 30, 2006, Valero shall submit to EPA a report detailing the NO_x concentration emissions achieved for the Wilmington FCCU through optimization of the O₂ CS. ...

48. Valero shall attain the following system-wide, coke burn-weighted average of NO_x concentration emission limits for Covered FCCUs and the Golden Eagle Refinery FCCU by the following dates: (a) an interim NO_x concentration emission limit average of 69.2 ppmvd (at 0% O₂), as a 365-day rolling average, by December 31, 2008 (the "Interim NO_x System-Wide Average") and (b) a final NO_x concentration emission limit average of 33.4 ppmvd (at 0% O₂) as a 365-day rolling average, by December 31, 2011 (the NO_x System-Wide Average").

49. As a component of its compliance with Paragraph 48, Valero shall satisfy the FCCU regenerator-specific NO_x emission control requirements established pursuant to Part V, Sections A through F, inclusive. In addition to the refinery-specific NO_x emission control measures in accordance with Sections V.A. through V.F., inclusive, Valero shall select from among the Covered FCCUs those units for which NO_x emissions shall be controlled or otherwise reduced so that Valero satisfies the Interim NO_x System-Wide Average and the NO_x System-Wide Average. Provided however, no Covered FCCU will have a permit limit higher than 80 ppmvd at 0% O₂ on a 365-day rolling average at the time it demonstrates compliance with Paragraph 48(b). ...

60. Valero shall take such action as may be necessary to ensure that each 365-day rolling average NO_x emission limit used to demonstrate compliance under Paragraphs 55 and 56 is less than or equal to 80 ppm. In addition and as part of each permit or permit application under Paragraphs 55 and 56, Valero shall also have or have applied for a 7-day rolling average NO_x concentration emission limit that shall be numerically twice the 365-day rolling average NO_x concentration emission limit used for that FCCU to demonstrate compliance under Paragraphs 55 and 56. ..."

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Paragraphs 55 and 56 describe the compliance demonstration method for these limits, including the equation used to calculate the system-wide average.

Thus, as required by the Consent Decree, the facility has identified a 365-day rolling average emission concentration limit of 41 ppmvd (at 0% O₂), and per paragraph 60, they have also proposed to include in the permit a 7-day rolling average emission concentration limit of 82 ppmv, which is numerically twice the 365-day rolling average. These limits will be imposed in the Emissions and Requirements column of the facility permit equipment description. Conditions A195.x1 and A195.x2 will be added to provide information on how compliance with the emission limits is to be calculated. The interim emission limit and associated Condition A195.4 will be removed from the permit as part of this action, as they are no longer valid.


EMISSIONS

This change of condition imposes new limits on NO_x emissions, as required per the Consent Decree. No other changes to emissions are included in this permit application. See previous applications for detailed emissions calculations for this permit unit.

RULES EVALUATION

PART 1: SCAQMD REGULATIONS

- Rule 212 Standards for Approving and Issuing Public Notice (Amended 11/14/97)**
 Rule 212 requires public notice for any new or modified permit unit, RECLAIM source or Title V equipment that increases emissions of toxic air contaminants and increases health risk as specified in 212(c)(1) - (c)(3). This change of condition does not include any increases in emissions or health risk; thus, public notice is not required.
- Rule 401 Visible Emissions (Amended 11/09/01)**
 Operation of this permit units is not expected to result in visible emissions. The facility is required to monitor for visible emissions per Conditions D323.1 for emissions from the FCC regenerator. The facility is also required to source test for PM emissions at least annually per Condition D29.12. The facility is currently in compliance with this rule and is expected to continue to operate in compliance with this rule.
- Rule 402 Nuisance (Adopted 05/07/76)**
 Operation of this permit unit is not expected to result in a public nuisance. The facility is currently in compliance with this rule and is expected to continue to operate in compliance with this rule.
- Rule 404 Particulate Matter - Concentration (Amended 02/07/86)**
 Rule 404 limits the particulate concentration that can be discharged from this permit unit. This emission limit is referenced in the Emissions and Requirements column of the facility permit. Table 404(a) lists the maximum grains per cubic foot concentration corresponding to the volume discharged as dry gas (standard conditions). The facility is required to source test for PM emissions at least annually per Condition D29.12. The

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facility is currently in compliance with this rule and is expected to continue to operate in compliance with this rule.

Rule 405 Solid Particular Matter – Weight (Amended 02/07/86)

Rule 405 limits the particulate rate in lbs/hr that can be discharged from this permit unit. This emission limit is referenced in the Emissions and Requirements column of the facility permit. Table 405(a) lists the maximum lbs/hr solid particulate matter discharge rate corresponding to the process weight per hour. The facility is required to source test for PM emissions at least annually per Condition D29.12. The facility is currently in compliance with this rule and is expected to continue to operate in compliance with this rule.

Rule 407 Liquid and Gaseous Air Contaminants (Amended 04/02/82)

This rule imposes a 2000 ppmv limit on CO emissions at the FCCU regenerator. This emission limit is referenced in the Emissions and Requirements column of the facility permit equipment description. Compliance with this rule is monitored by source testing required under Condition D29.13. The facility is currently in compliance with this rule and is expected to continue to operate in compliance with this rule.

Rule 1105 Fluid Catalytic Cracking Units – Oxides of Sulfur (Amended 09/01/84)

This rule is subsumed by RECLAIM. As noted in Rule 2001(j) Table 2, Rule 1105 is an existing rule not applicable to RECLAIM facilities for requirements pertaining to SOx emissions. No requirements apply.

Rule 1105.1 Reduction of PM10 and Ammonia Emissions from Fluid Catalytic Cracking Units (Adopted 11/07/03)


Rule 1105.1 imposes a PM10 limit of 2.8 lbs/1000 bbls, as described in the Emissions and Requirements column of the facility permit. Condition H23.27 also requires compliance with the applicable Rule 1105.1 PM10 limit, and Condition D29.13 requires source testing for compliance with this and other limits. Condition E193.4 specifies the modes of operation for the equipment and associated control devices. The facility is currently in compliance with this rule and is expected to continue to operate in compliance with this rule.

Rule 1123 Refinery Process Turnarounds (Amended 12/07/90)

This equipment is subject to the requirements of Rule 1123 per Condition S13.2. This rule requires that during refinery process turnarounds, the vapors released from process vessels are collected and contained for disposal until the vessel pressure is below 5 psig (or within 10% above the minimum gauge pressure of vapor collection, whichever is lower).

If inert gas displacement or vacuum eduction is used for the process turnaround, a plan is required to be submitted to the Executive Officer describing the procedure, disposition of displaced or educed gases, and the identifiable criteria for the stage of the procedure where the disposition is changed from a control facility to atmospheric venting. The facility is currently in compliance with this rule and is expected to continue to operate in compliance with this rule.

Reg XIII New Source Review (Amended 12/06/02)

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Rule 1303 Requirements (Amended 12/6/02)

New Source Review requirements apply to new, modified or relocated sources. According to Table 1 of Rule 2001(j), RECLAIM facilities are exempt from the requirements of Regulation XIII with regard to NO_x and SO_x emissions. New Source Review requirements apply to new, modified or relocated sources. This change of condition does not constitute a modification. Thus, no additional requirements of this regulation apply. The facility is currently in compliance with this rule and is expected to continue to operate in compliance with this rule.

Reg XIV Toxics and Other Non-Criteria Pollutants

Rule 1401: New Source Review of Toxic Air Contaminants (Amended 03/04/05)

Rule 1401 applies to new, modified or relocated permit units that emit Toxic Air Contaminants (TAC). This change of condition does not involve any increase in emissions; thus, no additional requirements apply. The facility is currently in compliance with this rule and is expected to continue to operate in compliance with this rule.

Reg XVII Prevention of Significant Deterioration

Rule 1701: General (Amended 08/13/99)

Prevention of Significant Deterioration (PSD) requirements apply to new sources with an increase in PTE of 100 or 250 tons/yr of attainment air contaminants, or existing sources with a significant emission increase, or any net emission increase at a source located within 10 km of a Class I area. The facility is not located within 10 km of a Class I area, and the change of condition does not result in a significant or net emission increase. Thus, the requirements of this rule do not apply to this proposed permit action.

Rule 1714: Prevention of Significant Deterioration for Greenhouse Gases (Adopted 11/05/10)

The requirements of Rule 1714 apply to preconstruction reviews for greenhouse gases. This rule incorporates by reference several sections of 40CFR Part 52.21. This rule requires that a PSD permit be obtained prior to beginning construction of a new stationary source or a major modification to an existing major source. An emission increase of greenhouse gas (GHG), as defined in §52.21(b)(49)(v), is both a significant emissions increase and a significant net emissions increase. Since the change of condition of this permit unit will not result in a net emission increase, this project is not subject to PSD requirements for GHG.


Reg XX Regional Clean Air Incentives Market (RECLAIM)

Rule 2004: Requirements (Amended 04/06/07)

Rule 2004 includes provisions relating to permits, allocations, reporting, variances, and breakdowns. These include the requirement to certify facility-wide emissions on a quarterly basis and not to exceed the facility's annual emissions allocation. In addition, breakdowns are required to be reported to the District within one hour of the breakdown and a follow-up breakdown report is required within 7 days after the breakdown has been corrected. The facility is currently in compliance with this rule and is expected to continue to comply with the requirements of this rule.

Rule 2005: New Source Review for RECLAIM (Amended 05/06/05)

Rule 2005 applies to NO_x and/or SO_x RECLAIM facilities and requires BACT and modeling for modifications that result in an emissions increase [2005(c)(1)]. An

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emission increase is defined as an increase in the maximum hourly potential to emit [2005(d)]. This change of condition does not result in any emission increase; thus, no additional requirements apply.

Rule 2011: Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur (SOx) Emissions (Amended 05/06/05)

The FCC regenerator is classified as a RECLAIM Major SOx source [2011(c)(1)(D)], and is thus subject to the monitoring, reporting and recordkeeping requirements of Rule 2011(c)(2). For major SOx sources, a continuous emission monitoring system (CEMS) is required. This FCC regenerator complies with RECLAIM by electronically transmitting CEMS SOx emissions data on a daily basis, and also submitting a Monthly Emissions Report, summarizing the SOx emissions on a monthly basis. The facility is currently in compliance and is expected to continue to comply with all applicable RECLAIM requirements.

Rule 2012: Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NOx) Emissions (Amended 05/06/05)

The FCC regenerator is classified as a RECLAIM Major NOx source [2012(c)(1)], and is thus subject to the monitoring, reporting and recordkeeping requirements of Rule 2012(c)(2) and (c)(3). For major NOx sources, a continuous emission monitoring system (CEMS) is required. The FCC regenerator complies with RECLAIM by electronically transmitting CEMS NOx emissions data on a daily basis, and also submitting a Monthly Emissions Report, summarizing the NOx emissions on a monthly basis. The FCC regenerator is currently in compliance and is expected to continue to comply with all applicable RECLAIM requirements.

Reg XXX

Title V Permits

Rule 3002 Requirements (Amended 11/14/97) This application is classified as an minor permit revision as defined in 3000(b)(15). Minor permit revisions are exempt from public participation per 3006(b) but are required to be submitted to the EPA per 3003(j)(1)(A).

PART II: STATE REGULATIONS

CEQA

California Environmental Quality Act (Amended 01/01/05)


This project has no emission increase and no significant impact which may trigger CEQA. No additional CEQA actions are required.

PART III: FEDERAL REGULATIONS

40CFR60

Subpart J Standards of Performance for Petroleum Refineries (Amended ~~06-24-2008~~ 09-12-2012))

Subpart J requires continuous monitoring of the coke burn-off rate, maintaining emissions below 2.0 lb/ton of coke burnoff. In addition Subpart J requires the use of continuous opacity monitors and continuous CO monitors to ensure that opacity is less than 30% and CO is less than 500 ppmv. Subpart J also imposes a limit on SOx. The emission limits are listed in the Emissions and Requirements section of the facility

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permit, and are also referenced in Condition H23.27. Opacity limits are noted in Condition A63.8, and an opacity meter is required per Condition D90.4. SOx limits are described in Condition A195.19. Source testing for PM is required per Condition D29.12, and an opacity meter is required per Condition D90.4.

The facility is currently in compliance with this regulation and is expected to continue to operate in compliance with this regulation.

40CFR60 Subpart Ja Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced after May 14, 2007 (Amended 06/24/2008)

Subpart Ja requirements are not applicable because the FCC has not been constructed, reconstructed or modified since May 14, 2007. No requirements apply.

40CFR61 Subpart FF National Emission Standard for Benzene Waste Operations (Amended 12/4/03)

The facility is required to identify benzene-containing streams and limit the amount of uncontrolled benzene emitted. The facility is currently in compliance with this regulation and is expected to continue to operate in compliance with this regulation.

40CFR 63 Subpart UUU: National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (Adopted 04/11/2002, Amended 02/09/2005)

The FCC regenerator is tagged with Subpart UUU requirements in the Emissions and Requirements column of the facility permit, detailed in Section J of the facility permit [40CFR 63 Subpart UUU, #2]. Condition H23.27 specifies that the FCC regenerator is subject to applicable Subpart UUU requirements for HAPs.

The facility currently has an approved Subpart UUU Operation, Maintenance and Monitoring Plan (A/N 448638) that includes the requirements for both Metal and Organic HAP. The plan details the compliance options for emission limits, operating limits, and monitoring systems for continuous compliance demonstration. The facility complies with Subpart UUU requirements by meeting the emission limit requirements of NSPS J. The facility is currently in compliance with this rule and is expected to continue to operate in compliance with this rule.


RECOMMENDATIONS

Based on the above evaluation, it is recommended that the proposed change of conditions be implemented as described in this document.

CONDITIONS

PROCESS CONDITIONS

P13.1 All devices under this process are subject to the applicable requirements of the following rules or regulations:

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| Contaminant | Rule | Rule/Subpart |
|-------------|---------|--------------|
| Benzene | 40CFR61 | SUBPART FF |

[40CFR 61 Subpart FF, 12-4-2003]

[Processes subject to this condition: 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 14]

SYSTEM CONDITIONS

S13.2 All devices under this system are subject to the applicable requirements of the following rules or regulations:

| Contaminant | Rule | Rule/Subpart |
|-------------|---------------|--------------|
| VOC | District Rule | 1123 |

[RULE 1123, 12-7-1990]

[Systems subject to this condition: Process 1, System 1, 3, 5; Process 2, System 1, 3, 5; Process 3, System 1; Process 4, System 1, 3, 5, 7; Process 5, System 1; Process 7, System 1, 3; Process 8, System 1, 2, 3, 4, 5, 6; Process 9, System 1; Process 10, System 1, 2, 3, 4, 5, 6, 7, 8, 10, 13, 39, 45, 46, 55; Process 11, System 1, 2; Process 17, System 50, 97]

S56.1 Vent gases from all affected devices of this process/system shall be directed to a gas recovery system, except for the venting of gases from equipment specifically identified in a permit condition, and for the following events for which vent gases may be directed to a flare:

1) Vent gases resulting from an Emergency as defined in Rule 1118 ;

2) Vent gases resulting from Planned Shutdowns, Startups and/or Turnarounds as defined in Rule 1118, provided that the owner/operator follows the applicable options and any associated limitations to reduce flaring that were identified, evaluated and most recently submitted by the owner/operator to the Executive Officer pursuant to Rule 1118, or any other option(s) which reduces flaring for such planned events; and


3) Vent gases due to and resulting from an Essential Operational Need, as defined in Rule 1118.

The evaluation of options to reduce flaring during Planned Shutdowns, Startups and/or Turnarounds shall be updated annually to reflect any revisions, and submitted to the Executive Officer in the first quarter of each year, but no later than March 31st of that year.

This process/system shall not be operated unless its designated flare(s) and vapor recovery system are in full use and have valid permits to receive vent gases from this process/system.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]

[Systems subject to this condition: Process 1, System 1, 3, 5; Process 2, System 1, 3, 5; Process 3, System 1; Process 4, System 1, 3, 5, 7; Process 5, System 1; Process 7, System 1, 3; Process

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8, System 1 , 2 , 3 , 4 , 5 , 6; Process 9, System 1; Process 10, System 1 , 2 , 3 , 4 , 5 , 6 , 7 , 8 , 10 , 13 , 39 , 45 , 46 , 55; Process 11, System 1 , 2 , 41; Process 13, System 1; Process 14, System 5 , 6; Process 17, System 1 , 11 , 46 , 50, 88 , 97]

DEVICE CONDITIONS:

A. Emission Limits

A63.4 The operator shall limit emissions from this equipment as follows:

| CONTAMINANT | EMISSIONS LIMIT |
|-------------|---------------------------------------|
| CO | Less than or equal to 955 LBS PER DAY |
| PM | Less than or equal to 562 LBS PER DAY |

[**RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]**

[Devices subject to this condition: D36]

A63.8 The operator shall limit emissions from this equipment as follows:

| CONTAMINANT | EMISSIONS LIMIT |
|-------------------|--|
| Visible emissions | Less than or equal to 30 Percent opacity |

[**40CFR 60 Subpart J, 6-24-2008 9-12-2012**)]

[Devices subject to this condition: D36]

A195.2 The 500 PPMV CO emission limit(s) is averaged over a one-hour block and at 0% oxygen on a dry basis.

[**CONSENT DECREE VALERO, 6-16-2005**]

[Devices subject to this condition: D36]

~~A195.4 The 80 PPMV NOX emission limit(s) is averaged over 365 days rolling and 0% oxygen on a dry basis.~~

~~[**CONSENT DECREE VALERO, 6-16-2005**]~~


~~[Devices subject to this condition: D36]~~

A195.17 The 25 PPMV SOx emission limit(s) is averaged over 365-days rolling and at 0% oxygen on a dry basis.

The 25 ppmv SOx emission limit to comply with Rule 2002 became effective on July 1, 2012.

[**RULE 2002, 1-7-2005; RULE 2002, 11-5-2010**]

[Devices subject to this condition: D36]

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A195.18 The 25 PPMV SO₂ emission limit(s) is averaged over 365-days rolling and at 0% oxygen on a dry basis.

The 25 ppmv SO₂ emission limit to comply with EPA Consent Decree became effective on February 28, 2011.

[CONSENT DECREE VALERO, 6-16-2005]

[Devices subject to this condition: D36]

A195.19 The 50 PPMV SO₂ emission limit(s) is averaged over 7-days rolling and at 0% oxygen on a dry basis.

The 50 ppmv SO₂ emission limit to comply with EPA Consent Decree became effective on February 28, 2011.

SO₂ emissions during period of startup, shutdown, or malfunction of an FCCU controlled by catalyst additives, or during periods of malfunction of a pollutant reducing catalyst additive system shall not be used in determining compliance with this emissions limit, provided that during such periods the operator implements good air pollution control practices to minimize SO₂ emissions.

[40CFR 60 Subpart J, ~~6-24-2008~~ 9-12-2012]; CONSENT DECREE VALERO, 6-16-2005]

[Devices subject to this condition: D36]

A195.x1 The 41 PPMV NO_x emission limit(s) is averaged over 365-days rolling and 0% oxygen on a dry basis.

This Consent Decree NO_x emission limit is calculated by CEMS data measured and recorded in accordance with Rule 2012.

This emission limit shall become effective January 1, 2012.

[CONSENT DECREE VALERO, 6-16-2005]

[Devices subject to this condition: D36]


A195.x2 The 82 PPMV NO_x emission limit(s) is averaged over 7-days rolling and 0% oxygen on a dry basis.

This Consent Decree NO_x emission limit is calculated by CEMS data measured and recorded in accordance with Rule 2012.

This emission limit shall become effective January 1, 2012.

[CONSENT DECREE VALERO, 6-16-2005]

[Devices subject to this condition: D36]

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D. Monitoring and Testing Requirements

D29.12 The operator shall conduct source test(s) for the pollutant(s) identified below.

| Pollutant(s) to be tested | Required Test Method(S) | Averaging Time | Test Location |
|---------------------------|--------------------------|----------------------------------|---------------|
| PM emissions | Approved District Method | District-approved averaging time | Outlet |

The test(s) shall be conducted at least annually.

The test shall be conducted when the equipment is operating under normal conditions.

Source test results shall be submitted to the District no later than 60 days after the source test was conducted.


Source test results shall include the following parameters: FCCU feed rate; catalyst recirculation rate; coke burn rate; oxygen content of exhaust gases; exhaust flow rate; exhaust gas moisture content; the flue gas temperature at the outlet of the ESP; and the average current, voltage, spark rate, and total power at each ESP field.

[RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997; RULE 401, 3-2-1984; RULE 404, 2-7-1986; RULE 405, 2-7-1986; 40CFR 60 Subpart J, 6-24-2008 9-12-2012]

[Devices subject to this condition: D36]

D29.13 The operator shall conduct source test(s) for the pollutant(s) identified below.

| Pollutant(s) to be tested | Required Test Method(s) | Averaging Time | Test Location |
|---------------------------|--|----------------------------------|---------------|
| PM10 emissions | District Method 5.2 Modified with EPA Method 201A Cyclone (filterables compliance, condensables information) | District-approved averaging time | Outlet |
| PM10 emissions | District Method 5.2 (filterables compliance, condensables information) | District-approved averaging time | Outlet |
| PM10 emissions | District Method 5.2 with Previously Determined PM10 to PM Ratio Applied (filterables | District-approved averaging time | Outlet |

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|----------------|--|----------------------------------|--------|
| PM10 emissions | compliance, condensables information) EPA Method 5 (filterables compliance) and EPA Method 202 (condensables information) | District-approved averaging time | Outlet |
| NH3 emissions | District method 207.1 | 1 hour | Outlet |
| CO emissions | District Method 100.1 or 10.1 | 1 hour | Outlet |

The operator shall choose any of the PM10 test methods as indicated above to comply with Rule 1105.1 requirements.

For the purposes of this condition, filterable PM10 is PM10 collected on the cyclone exit, probe, and filter(s) of the applicable test methods referenced above. Condensable PM10 is the PM10 collected in the impingers of the applicable test methods referenced above.

The AQMD engineer shall be notified in writing of the date and time of the test at least 10 days prior to the test.

The test shall be conducted with 6 out of 12 total transformer/recifiers (T/Rs) in the ESP(s) operating.

Ultramar may propose additional modes of ESP operation to be tested in the test protocol.

The test shall be conducted when the FCCU is operating with at least 80 percent of the total feed rate or under normal operating conditions.

The PM10 and NH3 tests shall be conducted at least every year.


The CO test shall be conducted at least once every three years.

Source test results shall include the following: FCCU feed rate in barrels per day (BPD); catalyst recirculation rate in tons per minute; catalyst make-up rate in tons per day; catalyst inventory in the equipment; fresh catalyst feed; sulfur content (%) in the feed; coke burn-off rate; O2 content of exhaust gases; exhaust flow rate; exhaust gas moisture content; the flue gas temperature at ESP outlet; and the average current in amps, voltage in volts, spark rate, and total power of each ESP in use.

In addition, the source test results shall include the ammonia injection rate prior to the ESP (if applicable).

[RULE 1105.1, 11-7-2003; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002; RULE 404, 2-7-1986; RULE 405, 2-7-1986; RULE 407, 4-2-1982]

[Devices subject to this condition: D36]

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D82.3 The operator shall install and maintain a CEMS to measure the following parameters:

CO concentration in ppmv

Oxygen concentration in percent volume

[**RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002**]

[Devices subject to this condition: D36]

D90.4 The operator shall monitor the opacity at the stack according to the following specifications:

The operator shall maintain and operate the opacity meter and record the readings as required pursuant to 40CFR60, Subpart J at all times except during periods of required maintenance and malfunction of the opacity meter.

[**40CFR 60 Subpart J, 6-24-2008 9-12-2012**]

[Devices subject to this condition: D36]


D323.1 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on an annual basis, at least, unless the equipment did not operate during the entire annual period. The routine annual inspection shall be conducted while the equipment is in operation and during daylight hours.

If any visible emissions (not including condensed water vapor) are detected that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either:

- 1). Take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit; or
- 2). Have a CARB-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures in the CARB manual "Visible Emission Evaluation", within three business days and report any deviations to AQMD.

The operator shall keep the records in accordance with the recordkeeping requirements in Section K of this permit and the following records:

- 1). Stack or emission point identification;
- 2). Description of any corrective actions taken to abate visible emissions;
- 3). Date and time visible emission was abated; and
- 4). All visible emission observation records by operator or a certified smoke reader.

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[RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997; RULE 401, 3-2-1984]

[Devices subject to this condition: D23, D24, D25, D26, D27, D28, D29, D30, D31, D36, D40, D41, D68, D69, D933, D934, D935, D936, D937, D938, D939, D1231, D1232, D1233]

E. Equipment Operation/Construction Requirements

E73.5 Notwithstanding the requirements of Section E conditions, the operator may, at his discretion, choose not to use ammonia injection if:

The FCCU meets the Rule 1105.1 filterable PM10 emission limit of 2.8 pounds per thousand barrels of fresh feed.

[RULE 1105.1, 11-7-2003]

[Devices subject to this condition: D36]

E193.4 The operator shall operate and maintain this equipment as follows:

The operator shall not operate any mode specified in Condition D29.13 if the source test results show that operating mode exceeds the PM10 (2.8 lbs per 1,000 bbl fresh feed) or NH3 (10 ppmv) limits specified in Rule 1105.1.

Notwithstanding the requirements of Section E conditions, the operator is not required to operate all three ESPs (61-PR-1A, 61-PR-1B, 61-PR-2) in full operation when venting the FCCU Regenerator catalyst fine exhaust if the operator maintains a minimum of 6 of 12 transformer/rectifier sets in operation..

[RULE 1105.1, 11-7-2003]

[Devices subject to this condition: D36]


H. Applicable Rules

H23.27 This equipment is subject to the applicable requirements of the following rules or regulations:

| Contaminant | Rule | Rule/Subpart |
|-------------|------------------|--------------|
| PM10 | District Rule | 1105.1 |
| HAPs | 40CFR63, SUBPART | UUU |
| CO | 40CFR60, SUBPART | J |
| PM | 40CFR60, SUBPART | J |
| Opacity | 40CFR60, SUBPART | J |
| SOX | 40CFR60, SUBPART | J |

[RULE 1105.1, 11-7-2003; 40CFR 60 Subpart J, 6-24-2008 9-12-2012; 40CFR 63 Subpart UU, 4-20-2006]

[Devices subject to this condition: D36]

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K. Recordkeeping/Reporting

K40.3 The operator shall provide to the District a source test report in accordance with the following specifications:

Source test results shall be submitted to the District no later than 60 days after the source test was conducted.

PM10 emission data from testing performed per condition D29.13 shall be reported in terms of mass rate (lbs/hr) and in terms of grains /DSCF.

CO emission data shall be reported in terms of mass rate (lbs/hr) and in terms of concentration (ppmv), corrected to 3 percent oxygen, dry basis.

Ammonia emission data shall be expressed in terms of concentration (ppmv), corrected to 3 percent oxygen, dry basis.

All exhaust flow rate shall be expressed in terms of dry standard cubic feet per minute (DSCFM) and dry actual cubic feet per minute (DACFM).

Source test results shall also include the following operating parameters under which the test was conducted:

Source test results shall include the following: FCCU feed rate in BPD; catalyst recirculation rate in tons per minute; catalyst make-up rate in tons per day; catalyst inventory in the equipment; fresh catalyst feed; sulfur content (%) in the feed; coke burn-off rate; O2 content of exhaust gases; exhaust flow rate; exhaust gas moisture content; the flue gas temperature at ESP outlet; and the average current in amps, voltage in volts, spark rate, and total power of each ESP in use.

In addition, the source test results shall include the ammonia injection rate prior to the ESP (if applicable).

This condition shall only apply to source test condition D29.13.

[RULE 1105.1, 11-7-2003; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002; RULE 404, 2-7-1986; RULE 405, 2-7-1986; RULE 407, 4-2-1982]

[Devices subject to this condition: D36]